



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,254	09/17/2003	Siegbert Woehrle	WEMP/02	3731
20529	7590	12/03/2004	EXAMINER	
NATH & ASSOCIATES 1030 15th STREET, NW 6TH FLOOR WASHINGTON, DC 20005			FRANK, RODNEY T	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/664,254		WOEHRLE, SIEGBERT	
	Examiner		Art Unit	
	Rodney T. Frank		2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,9,10,13-15 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 4,7,8,11,12,16 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/6/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 4, 7, 8, 11, 12, 16, and 17 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 9, 10, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilson et al. (U.S. Patent Number 5,895,848; hereinafter referred to as Wilson). Wilson discloses a liquid level sensing apparatus, and related method, that utilizes a tuning fork assembly to detect the presence of not only a liquid or air at a particular location within a container, but also a solid material at that location. The tuning fork assembly includes an excitation transducer and a receiving transducer mechanically coupled to a pair of paddles that are exposed within the container, and a phase-locked loop control system applies an excitation signal to the excitation transducer having a frequency that is regulated to track the tuning fork's resonant frequency. A comparator compares that resonant frequency with a prescribed threshold, to determine whether the tuning fork assembly is disposed in air or a liquid. A failure of the phase-locked loop control system to lock the frequency of the excitation signal at any particular frequency indicates that the tuning fork assembly is over-damped and likely contacted by a solid material. Since the apparatus

Art Unit: 2856

normally excites the tuning fork assembly at its resonant frequency, this allows the apparatus to be operated at reduced power levels, leading to improved efficiency (Please see the abstract).

4. With regard to claim 1, Wilson discloses and shows in figure 3 a filling level sensor comprising a tunable electrical resonant circuit, a mechanical oscillator that can be excited to resonance oscillation by the resonant circuit, and a control circuit for tuning the resonant circuit to a resonance frequency of the mechanical oscillator, comprising a device for comparing the amplitude and/or frequency of the mechanical oscillator with a value, and for detecting a malfunction of the mechanical oscillator if its amplitude and/or frequency deviates from this value in the prescribed manner is disclosed in the abstract.

In regard to claim 2, a filling level sensor according to claim 1, wherein the control circuit comprises a PLL is disclosed in the abstract and also in column 4 lines 40-51.

In regard to claim 3, a filling level sensor according to claim 1 or 2, further comprising a mechanical-electrical transducer for the purpose of providing a signal proportional to the amplitude of the mechanical oscillator, and wherein the device for comparing comprises a threshold circuit, which receives the signal supplied by the transducer and suppresses it if its amplitude falls below the minimum value (the use of a threshold is disclosed in column 2 lines 35-42).

In regard to claims 9, 10, and 13, the device of claim 1 wherein the resonant circuit is connected to an electrical-mechanical transducer that drives the oscillator by way of a low pass filter is shown in figure 3 and disclosed in column 6 lines 21-34.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2856

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 6, 14, 15, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson.

7. With regard to claims 5 and 6, the transducer supplying the signal to the control circuit is disclosed, however, Wilson utilizes a bandpass filter instead of a high pass filter. Even though the claimed high-pass filter is not disclosed by Wilson, since there is no unexpected result nor any improvement resulting from said high-pass filter, this is seen as a mere design choice that would be obvious to one of ordinary skill in the art.

With regard to claims 14, 15, and 18, though the exact construction of the transducer and the low-pass filter are not specifically disclosed, the examiner feels that the limitations regarding their construction is a mere design choice that is well within the preview of one of ordinary skill in the art.

With regard to claims 19, the process for detecting a malfunction in a filling level measurement system is disclosed in the abstract.

With regard to claim 20, column 6 lines 29-34 discloses that if the system detects a constant toggling, then an alarm signal is produced to indicate that a solid material has contacted the system. Since an alarm is usually an indicator of an error, which is similar to a malfunction, this claim is considered to be generally disclosed by Wilson.

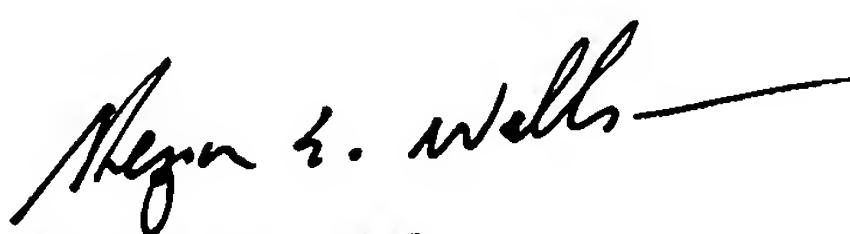
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (571) 272-2193. The examiner can normally be reached on M-F 9am -5:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RTF
November 26, 2004


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800